Application No.: 10/563,347 2 Docket No.: NEN-22102/16

OK TO ENTER: /J.M./

CLAIM AMENDMENTS

1. (Withdrawn) A process for detecting a short RNA fragment comprising:

labeling the short RNA fragment having a nucleotide sequence with a detectable platinum compound having a marker moiety to form a labeled small RNA fragment;

exposing said labeled short RNA fragment to a capture oligonucleotide comprising at least two replicates of a nucleotide sequence complementary to the nucleotide sequence of said short RNA fragment;

contacting said labeled short RNA fragment and said capture oligonucleotide to hybridization conditions; and

detecting the marker moiety upon hybridization between said labeled small RNA fragment and said capture oligonucleotide.

- 2. (Withdrawn) The process of claim 1 wherein said small RNA fragment is present in a mixture of in vivo synthesized RNA fragments.
- 3. (Withdrawn) The process of claim 1 wherein said marker moiety is selected from the group consisting of: a fluorophore, a hapten, a radioisotope, an enzyme, an enzyme substrate, a dye, a sol, a chromophore, and an antibody.
- 4. (Withdrawn) The process of claim 1 wherein said capture oligonucleotide is immobilized on a solid substrate.
- 5. (Withdrawn) The process of claim 4 wherein said solid substrate is a microarray spotted with said capture oligonucleotide and a plurality of different capture oligonucleotides that vary in nucleotide sequence relative to said capture oligonucleotide.
- 6. (Withdrawn) The process of claim 1 wherein said capture oligonucleotide further comprises an additional nucleotide sequence having a function selected from the group consisting of : universal control, a spacer, and a combination thereof.

7. (Withdrawn) The process of claim 6 wherein said additional nucleotide sequence is interspersed between said at least two replicates.

- 8. (Withdrawn) The process of claim 6 wherein at least two additional nucleotide sequences surround the complementary RNA nucleotide sequence of interest.
- 9. (Withdrawn) The process of claim 1 wherein hybridization conditions include heating said labeled short RNA fragment and said capture oligonucleotide to between 30 and 40 Celsius.
- 10. (Withdrawn) The process of claim 1 wherein detection of hybridization between said labeled short RNA fragment and said capture oligonucleotide is by fluorescence.
- 11. (Withdrawn) The process of claim I wherein detection of hybridization between said labeled short RNA fragment and said capture oligonucleotide is by signal amplification.
- 12. (Withdrawn) The process of claim 11 wherein the signal amplification is tyramide signal amplification.
- 13. (Withdrawn) The process of claim 1 further comprising the step of removing nucleotide sequences over 80 nucleotides in length prior to labeling.
- 14. (Withdrawn) The process of claim 1 further comprising the step of purifying said labeled short RNA fragment prior to exposure of said labeled short RNA fragment to said capture oligonucleotide.
 - 15. (Currently Amended) A detection array for short RNA fragments comprising: a substrate;
- a first spot on said substrate comprising a first capture oligonucleotide having at least two replicates of a nucleotide sequence complementary to a first short RNA fragment and having an

additional nucleotide sequence having a function selected from the group consisting of : universal control and spacer; and

a second spot on said substrate displaced from said first spot comprising a second capture oligonucleotide having at least two replicates of a nucleotide sequence complementary to a second short RNA fragment and having an additional nucleotide sequence having a function selected from the group consisting of: universal control and spacer.

- 16. (Original) The array of claim 15 wherein said substrate is glass.
- 17. (Original) The array of claim 15 wherein said plurality of spots includes at least 10 spots.
- 18. (Original) The array of claim 15 wherein said first spot has a linear dimension of from 1 to 100 microns.
- 19. (Original) The array of claim 15 wherein the additional nucleotide sequence of said first capture oligonucleotide is interspersed between the at least two replicates.
- 20. (Previously Presented) A detectable small RNA fragment comprising a small RNA fragment bound to a detectable platinum compound, said small RNA fragment immobilized on a detector array according to claim 15.
- 21. (Previously Presented) A method of detecting a small RNA fragment which comprises binding a detectable platinum compound to said small RNA fragment and exposing the same to a detector array of claim 15.

22. - 23. (Canceled)

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24. (Previously Presented) A commercial package comprising a detector array according to claim 15 and a detectable platinum compound together with instructions for the use thereof as a detector for small RNA fragments.

25. - 26. (Canceled)